

IN THE CLAIMS

Please amend the claims as follows. A separate marked-up copy of the amended claims is presented herewith.

23. (twice amended) Device for measuring fluorescence excited by light, which has at least one layer which is applied to a support and which at least one layer contains a fluorescing material, having at least one light source which emits light of at least one wavelength that excites fluorescence(s) and thus fluorescent light in the at least one layer, and which light is directed through the support onto the at least one layer by at least one first optical conductor, the fluorescent light being directed by at least one second optical conductor onto at least one detector for determining the intensity of the fluorescent light, wherein the end faces of all the optical conductors are arranged relative to one another as a function of their numerical apertures and with reference to the position of the at least one layer containing a fluorescing material, and the at least one second optical conductor which are arranged as a bundle in the shape of a ring are arranged with the at least one optical conductor, arranged in the interior of the ring, which bundle is used for exciting light or for generating fluorescence light, or the at least one first optical conductor comprises a plurality of first optical conductors and the at least one second optical conductor comprising a plurality of second optical conductors, and a plurality of the first optical conductors are arranged in series arrangements opposite one another, with ones of the first optical conductors and corresponding ones of the second optical conductors forming pairs, such that it is possible to achieve a defined localized distribution of measurable fluorescence intensity, and the light source(s), the first and second conductors and the detector(s) are held in a measuring head.

24. (twice amended) Device according to claim 23, wherein a part of the measuring head holds outer ends of the optical conductors, and at least the part of the measuring head which holds the outer ends of the optical conductors is of flexible construction.

26. (twice amended) Device according to claim 23, wherein at least one of a filter, a system of exchangeable filters or a launching optical system is arranged in each case between the light source and at least one first optical conductor.

27. (twice amended) Device according to claim 23, wherein the optical conductors are arranged in the shape of a ring, a circular arc or a star on an end of the measuring head pointing towards the at least one layer containing fluorescing material.

28. (twice amended) Device according to claim 23, wherein the at least one second optical conductor for exciting light, reference light or further fluorescent light are arranged in an alternating fashion in an outer ring, and at least one of the second optical conductors for fluorescent light are arranged in an inner ring.

29. (twice amended) Device according to claim 23, wherein the at least one first and the at least one second optical conductors are inclined at different angles with their ends pointing towards the fluorescing layer.

30. (twice amended) Device according to claim 23, wherein there is arranged on an upper measuring head region a heater having a temperature sensor and a controller or regulator which is arranged in the measuring head and maintains a prescribable temperature at the fluorescing layer(s).

31. (twice amended) Device according to claim 23, wherein the support, which is transparent to exciting light and fluorescent light has partially polished or reflecting surface regions or the surface is surrounded by a medium of lower refractive index, and is mounted in an exchangeable fashion on the measuring head.

32. (twice amended) Device according claim 31, wherein exciting light is launched into the support with the aid of at least one optical conductor such that the exciting light is totally reflected at least in the region of the layer, and total reflection occurs.

35. (twice amended) Device according to claim 31, wherein, on an end face opposite an end face into which the exciting light can be launched, the support has an angular surface and a layer of the at least one layer which contains fluorescing material and at which the exciting and fluorescing light is reflected in the direction of a planar optical conductor constructed symmetrically relative to the support, and the light from the angular surface thereof is directed onto an end face arranged at the other end of an optical conductor, and from there at least fluorescent light is directed onto a detector via at least one optical conductor, the support and planar optical conductor being arranged at a spacing from one another or being optically separated as far as into the region of the angular surface.

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36. (twice amended) Device according to claim 31, wherein the support is of u-shaped construction comprising two limbs, the two limbs are optically separated from one another, and the exciting light can be launched into an end face of a limb via at least one additional optical conductor, and at least fluorescent light can be coupled out via the end face of the other limb into at least one further optical conductor.

38. (twice amended) Device according to claim 23, wherein heating elements are integrated into the support.

39. (twice amended) Device according to claim 23, wherein between one of the optical conductors for fluorescence-exciting light and one of the at least one layers containing the fluorescing material, a transparent body made from optically scattering material is arranged or a body comprising a diffusely scattering surface is positioned facing the layer

40. (twice amended) Device according to claim 39, wherein the body is formed from optically transparent material which contains light-scattering particles.

41. (twice amended) Device according to claim 23, wherein at least one further optical conductor directs reference light onto a further detector for detecting a reference signal.

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44. (amended) Device according to 23, wherein the support is configured to receive heating elements.

REMARKS

Responsive to the outstanding Final Rejection Office Action, applicant has carefully studied the Examiner's comments relative to formal matters. It is respectfully submitted that no new issues have been raised in response to this Office Action. Favorable reconsideration of the application is respectfully requested. It is respectfully submitted that no new matter has been added in the presentation of these amendments.

The claims pending in the application are claims 23-44. In the amendment, applicant has amended claims 23-24, 26-32, 35-36, 38-41 and 44. It is respectfully submitted that no new matter has been presented in this amendment.